

Appl. No.: 10/658,241
Reply to Office Action of May 24, 2005

Remarks

A. Amendments

Typographical errors in the specification and claims have been corrected.

The reference to the 4,8 linkages being "beta" has been deleted because, as the Examiner will recognize, when catechin is the first mer the linkage is alpha, not beta.

New Claims 42 and 43 correspond to original Claims 15 and 16, which have been rewritten to make the corrected claims easier to read, and the punctuation has been corrected. In Claim 43, catechin monomers and oligomers have been included in the body of the claim. Please note that the preamble of original Claim 16 referred to "(4 β ,8)-oligomer of epicatechin or catechin" (emphasis added) and original Claim 31 covered the benzyl-protected catechin monomer having the 4-[(2-(benzothiazolyl)thio] group.

New Claims 44 to 45 cover deprotecting the tetra-O-protected oligomers of Claim 15.

No new matter is presented.

B. § 112, 1st Paragraph Rejection of Claims 15 to 26 under The Written Description Requirement

Claims 15-26 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner believes that the claims contain subject matter "a mixture of benzyl-protected (4 β ,8)-oligomers of epicatechin" without limitation, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

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C. Applicants' Response to The §112 Written Description Rejection

It is respectfully pointed out that the subject matter of Claims 15 and 16, now Claims 42 and 43, *i.e.*, a process for preparing a mixture of protected oligomers is fully described at page 4, lines 15-31. See also the extensive discussion on pages 6 to 10 under Part B where the chain extension of 5,7,3',4'-protected-epicatechin or catechin monomers having a C-4-[2-(benzothiazolyl)thio] group is discussed. This discussion includes identification of the reagent to be used to introduce the 2-(benzothiazolyl)thio group at C-4; the use of silver tetrafluoroborate, preferably dry silver tetrafluoroborate, to effect the chain extension; the separation of the protected oligomers by reverse phase HPLC; the deacetylation of the protected oligomers; and the deprotection of the resulting benzyl ethers by hydrogenolysis.

D. §112 Rejection, 1st Paragraph Rejection of Claims 15 to 26 Under the Enablement Requirement

Claims 15-26 were rejected under 35 U.S.C. 112, 1st paragraph because the Examiner believes that the specification, while enabling for the preparation of (4 β ,8)-dimer or trimer of acetyl-protected or benzyl-protected epicatechin, does not reasonably provide enablement for a process for preparing acetyl-protected or benzyl-protected epicatechin (4 β ,8)-oligomers other than the dimer or trimer. The Examiner cites pages 1-6 of the specification.

E. Applicants' Response to §112, 1st Paragraph Enablement Rejection

It is respectfully submitted that Claims 15 and 16, now Claims 42 and 43, are fully enabled. The claims are limited to protected epicatechin and catechin oligomers having acetyl protecting groups at the 3- positions and benzyl protecting groups at the 5,7,3', and 4'- positions of the oligomers.

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The preparation of protected oligomers higher than the dimer and trimer is exemplified. See Example 7 where a C-4 activated, penta-O-protected monomer was reacted with a penta-O-protected-epicatechin-(4 β ,8) - dimer. The protected oligomers recovered included the protected trimer through the protected octamer (see page 21, lines 11-13). See Examples 8 and 9 where a C-4 activated, penta-O-protected-epicatechin monomer was reacted with a penta-O-protected epicatechin (4 β ,8)-trimer and -tetramer. The resulting protected oligomers included protected oligomers through the undecamers.

The deprotection of oligomers higher than the dimer and trimer is exemplified. See Example 10, Parts A through G, where the penta-O-protected-trimer, -tetramer, -pentamer, -hexamer, -heptamer, -octamer, and -nonamer were hydrolyzed to remove the acetyl protecting groups. See Example 11, Parts A through F, where the tetra-O-protected -trimer, -tetramer, -pentamer, -hexamer, -heptamer, and -octamer were deprotected by removing the benzyl protecting groups at the 5, 7, 3', and 4' positions.

F. §112 Rejection of Claim 16 under §112, 2nd Paragraph As Indefinite

Claim 16 was rejected under 35 U.S.C. 112, second paragraph, as indefinite because at lines 4 to 6, the claim recites the limitation "silver tetrafluoroborate 3-O-acetyl-4-[(2-benzothiazolyl)thio] in the presence of silver tetrafluoroborate" which the Examiner considers ambiguous and indefinite.

G. Applicants' Response to §112 Indefiniteness Rejection

In view of the cancellation of Claim 16, the rejection is moot. The error in Claim 16 was a typographical error where certain text was repeated.

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H. Closing and Reconsideration

Entry of this amendment and an early allowance are respectfully requested. No new matter is presented.

I. Correspondence and Fees

In the event that any fees are required, authorization is hereby given to charge Deposit Account No. 03-3839. Please address all correspondence to Intellectual Property Docket Administrator, Gibbons, Del Deo, Dolan, Griffinger & Vecchione, One Riverfront Plaza, Newark, NJ 07102-5497. Should there be any questions or other matters that may be resolved by a telephone call, the Examiner is invited to contact the undersigned attorney at the number below.

Respectfully submitted,

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